

Appln No. 09/885,307

Amdt date May 23, 2005

Reply to Office action of February 23, 2005

REMARKS/ARGUMENTS

Claims 1-6, 9, 11-29, and 31-55 will be pending in this application upon entry of the above amendments. Claims 1, 9, 11-12, 18, 24, 32-34, and 40 have been amended. Claims 7-8, 10, and 30 have been canceled. Claims 46-55 have been added. The amendments find full support in the original specification, claims, and drawings. No new matter has been added. In view of the above amendments and remarks that follow, reconsideration, reexamination, and an early indication of allowance of claims 1-6, 9, 11-29, and 31-55 are respectfully requested.

Claims 1-4, 6, 15, 17-21, 23, 27, 29-37, 39-43, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Gang et al. (U.S. Patent Publication No. 2003/0055516). Claims 5, 16, 22, 28, 38, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gang in view of Yee et al. (U.S. Patent No. 5,210,611).

Independent claim 1, as amended, recites "automatically processing audio signals of an audio piece and compiling audio characteristic information including acoustic information associated with the audio piece based on the automatically processed audio signals." (Emphasis added).

Gang discloses a system and method for predicting the musical taste and/or preferences of a user. In doing so, Gang proposes using a "feature base . . . containing the analysis of each of the songs of the catalog by musical features." The feature base disclosed by Gang, however, is generated manually by "professional musicians and/or other trained personnel" who are trained to listen to the songs recognize the various musical

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features. (See, ¶¶ 0042 and 0056). The feature base is not generated as a result of "automatically processing audio signals of an audio piece" as is required in claim 1.

Yee teaches an apparatus and technique for automatic tuning of an audio device based on a topic selected by a user from a menu of topics. Broadcast signals transmitted by different broadcast carriers are scanned for determining whether it contains content that matches the topic selected by the user. In this regard, Yee proposes transmitting digital data in the broadcast signal that characterizes the content of the signal based on subject matter. A filter logic scans the various broadcast carriers, one by one, and compares the digital data against the user's topic selection. The tuner is then set to the matching broadcast carrier signal. (See, Col. 6, lines 25-52). There is nothing in Yee, however, that teaches or suggests "automatically processing audio signals of an audio piece and compiling audio characteristic information including acoustic information associated with the audio piece based on the automatically processed audio signals."

Claim 1 further recites "selecting the audio piece based on the comparison and further based on a detected broadcast time scheduled for the audio piece." This limitation is also neither taught nor suggested by Gang nor Yee.

In predicting the musical taste and/or preferences of a user, Gang proposes generating a matrix of pseudo-distances $d(i, j)$ for each pair of songs in a catalog. The user rates some of the songs $r(k_1) \dots r(k_n)$ where $r(k)$ is the rating given by the user to song k . The forecasted rating for the user for a

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particular song i in the catalog is the weighted average of the ratings $r(k_1), \dots, r(k_n)$ where $r(k)$ is weighted by a quantity that is inversely proportional to some fixed power of $d(k, i)$. (See, ¶ 0036). Once a forecasted rating of the other unrated songs in the catalog are determined, those songs that are predicted to be liked best by the user (i.e. those with the highest forecasted ratings) may then be forwarded to the user. (See, Abstract). There is no mention in Gang, however, that songs are selected based on anything but the forecasted ratings, and much less, "based on a detected broadcast time scheduled for the audio piece" as is required in claim 1.

Yee compares the user topic selection against the digital data transmitted with each broadcast signal. Yee then tunes to the signal upon a match. As in Gang, the selection in Yee is also not "based on a detected broadcast time scheduled for the audio piece."

Gang and Yee further fail to teach or suggest "receiving the audio piece broadcast according to the scheduled broadcast time; storing at least a portion of the received audio piece; detecting a playback condition; and outputting at least the portion of the received audio piece responsive to the detected playback condition." Gang makes no mention at all about receiving an "audio piece broadcast according to the scheduled broadcast time."

Although Yee receives broadcast signals, nothing in Yee teaches or suggests "storing at least a portion of the received audio piece; detecting a playback condition; and outputting at least the portion of the received audio piece responsive to the

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detected playback condition." Yee simply scans the broadcast carrier signals and if a particular broadcast carrier is identified as transmitting signals which content match the topic selection made by the user, Yee simply teaches tuning to the broadcast signal. Accordingly, claim 1 is now in condition for allowance.

Independent claim 12, as amended, includes limitations that are similar to the limitations of claim 1 which place claim 1 in condition for allowance. Accordingly, claim 12 is also in condition for allowance.

Independent claim 18, as amended, recites "automatically processing audio signals of at least one of the plurality of audio pieces in the first database and, based on the automatic processing of the audio signals, generating an audio feature vector having a plurality of first fields representing a plurality of audio characteristics, each first field storing a value representing an extent of the associated audio characteristic present in the audio piece." (Emphasis added). As discussed above with reference to claim 1, Gang and Yee fail to teach or suggest this limitation.

Amended claim 18 further recites "generating a user preference vector based on the user audio preference information, the user preference vector having a plurality of second fields representing the audio characteristics represented by the plurality of first fields, each second field storing a value for the corresponding audio characteristic based on the user audio preference information; computing a distance between the audio feature vector and the user audio preference vector;

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selecting the audio piece based on the computed distance; and transmitting the selected audio piece to a user station over a computer network." These limitations are not taught nor suggested by Gang and Yee.

In Gang, the user provides ranking of various songs, but this information is not translated into any user preference vector. Furthermore, Gang does not teach or suggest "computing a distance between the audio feature vector and the user audio preference vector" as is required by claim 18.

Yee makes no mention of audio feature vectors or user preference vectors.

Independent claim 24 is also in condition for allowance because it includes limitations that are similar to the limitations of claim 1, which place claim 1 in condition for allowance. In addition, claim 24, as amended, recites "a first processor processing audio signals of an audio piece and compiling audio characteristic information including acoustic information associated with the audio piece based on the processed audio signals." (Emphasis added). The Examiner takes the position that "it is inherent" in the system disclosed in Gang "that a processor is used for compiling the audio characteristic information and for comparing the audio preferences to that information." Applicant respectfully disagrees. As discussed above with respect to claim 1, the generating of the feature base as taught in Gang is done manually, and not based on a "first processor processing audio signals" as is recited in claim 24. Accordingly, claim 24 is also in condition for allowance.

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Claim 34 includes limitations that are similar to the limitations of claim 12 which place claim 12 in condition for allowance. Accordingly, claim 34 is also in condition for allowance.

Claim 40 includes limitations that are similar to the limitations of claim 18 which place claim 18 in condition for allowance. According, claim 40 is also in condition for allowance.

Claims 2-6, 9, 11, 13-17, 19-23, 25-29, 31-33, 35-39, and 41-45 are also in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they contain.

Claims 46-55 are new in this application. New independent claim 51 recites, "one or more transmitters transmitting the plurality of audio pieces over a plurality of broadcast channels according to broadcast times scheduled for the plurality of audio pieces" and "a user station including a tuner and a buffer." The user station is configured to:

- "receive user preference data;

- retrieve the acoustic analysis data for the plurality of audio pieces;

- compare the user preference data with the acoustic analysis data;

- select one or more of the plurality of audio pieces based on the comparison and further based on detected broadcast times scheduled for the one or more of the plurality of audio pieces;

- control the tuner to automatically tune to one or more of the broadcast channels broadcasting the one or more of the plurality of audio pieces in response to the selection;

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store the one or more of the plurality of audio pieces tuned to by the tuner in the buffer;

detect a playback condition; and

output the audio pieces stored in the buffer responsive to the detected playback condition."

These limitations are neither taught nor suggested by Gang or Yee.

New independent claim 54 recites:

"A computer-implemented method for creating a customized audio program comprising:

comparing user acoustic preference data with acoustic analysis data associated with a plurality of audio pieces;

selecting two or more of the plurality of audio pieces based on the comparison and further based on detected broadcast times scheduled for the two or more of the plurality of audio pieces;

receiving the plurality of audio pieces broadcast via a plurality of broadcast channels according to scheduled broadcast times;

automatically switching between two or more of the broadcast channels for tuning to the selected two or more of the plurality of audio pieces according to their scheduled broadcast times; and

generating an output based on the tuned audio pieces."

There limitations are also not taught nor suggested by Gang or Yee.

New claims 46-50, 52-53, and 55 are in condition for allowance because they depend on an allowable base claim, and for the additional limitations that they contain.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration, reexamination, and an

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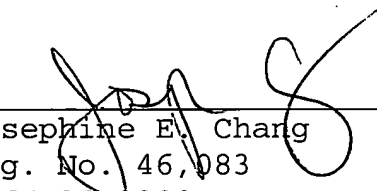
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early indication of allowance of claims 1-6, 9, 11-29, and 31-55.

In compliance with the Examiner's request, Applicant herein submits corrected drawings to replace FIGS. 1-7 originally submitted with the application. Entry of the corrected drawings is respectfully requested.

Respectfully submitted,
CHRISTIE, PARKER & HALE, LLP

By



Josephine E. Chang
Reg. No. 46,083
626/795-9900

JEC/lal

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Amendments to the Drawings:

Attached are formal drawings. The attached sheets of drawings including Figs. 1-7, replaces the original sheets including Figs. 1-7.

Attachment: Replacement Sheets